

WATER QUALITY REPORT

FOR BLOOMINGTON, MN • 2012 TEST RESULTS



JUNE 2013

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MAKING SAFE DRINKING WATER

The City of Bloomington works hard to provide you with high-quality, safe, reliable drinking water that meets every federal and state water quality requirement. This report contains information about the sources, treatment process and history of our water system. The results of water quality monitoring on Bloomington's water sources from January 1 to December 31, 2012, by the Minnesota Department of Health, the city of Minneapolis and Bloomington's laboratories can be found on page WQR4. The City's goal is to advance residents' understanding of drinking water and heighten awareness of the need to protect precious water resources.

TOP-RATED UTILITY SERVICES BLOOMINGTON RESIDENTS LOVE THEIR WATER

In a 2012 community survey conducted by the National Research Center in which thousands of residents were contacted to get their views of Bloomington as a place to live and work, utility services ranked first among peer cities. For example, 89 percent rated the City's drinking water as excellent or good.

Bloomington residents have long enjoyed the taste of Bloomington's drinking water. In a blind taste test at the 2011 Home Improvement Fair, City of Bloomington water was compared glass-to-glass with bottled water. City water was selected as having a better taste by more than 80 percent of taste-testers. Considering that one bottle of designer water costs as much as 5,376 equivalent-sized bottles of City water, Bloomington citizens are indeed receiving quality water at a bargain price.

The City is constantly looking for opportunities to improve the quality and efficiency of the water and sewer services it provides. The City and the Minnesota Department of Health regularly test samples of Bloomington's water for contaminants. *See page WQR4.*

The Sam H. Hobbs Water Treatment Plant, built in 1973, and remodeled in 2002 can produce 14 million gallons of treated, drinkable water per day. The lime-softening plant operates 24 hours a day, every day of the year. Utility operators who work at the water plant also serve as the 24-hour contact people for water emergencies.



Try a rain garden. It adds interest to your yard and promotes wise water use.



Residents can reduce their outdoor water consumption by following the tips below.

LAWN WATERING TIPS

- Water early in the morning to minimize evaporation.
- Step on the grass; if it springs back when you move your foot, it does not need water.
- Adjust sprinklers to avoid watering sidewalks and driveways.
- Check your sprinkler system for leaks and broken sprinkler heads.
- Know your soil and its watering needs.
- Never water faster than the ground can absorb.
- Cut grass no shorter than two inches to reduce evaporation and promote deep root growth.
- Aerate your lawn as needed.

Residents play an important role in conserving Bloomington's water. Daily water demand in Bloomington has grown from a few million gallons per day in the early 1960s, to 10 million gallons on an average winter day and 20-25 million gallons on an average summer day.

GET INVOLVED

Public Works welcomes input on water quality issues. For information, contact the Water Quality Supervisor at 952-563-4905.

If you have questions about your water or need assistance, give us a call or visit the City's website at [WWW.CI.BLOOMINGTON.MN.US](http://www.ci.bloomington.mn.us).

Water Plant (24 hours a day)

952-563-4905

TTY (8 a.m. to 4:30 p.m., M - F)
952-563-8740

Este informe contiene información muy importante. Si necesita una traducción del mismo, sírvase llamar al 952-563-4944 V/TTY.

Bản báo cáo này có các thông tin rất quan trọng. Nếu quý vị cần bản dịch tiếng Việt, xin gọi số 952-563-4944 V/TTY.

Warbixintaan waxaa ku jira macluumaad aad muhiim u ah. Haddii aad u baahan tahay in lagu turjumo, fadlan la xiriiir 952-563-4944 V/TTY.

PROTECTING OUR PUBLIC WATER SUPPLY WELLHEAD PROTECTION BENEFITS EVERYONE IN THE COMMUNITY

In its ongoing effort to protect the wellhead, Utilities labels all storm water catch basins within a 5,000 foot radius of the City's six groundwater wells with storm drain markers. These markers, with the words "No dumping, only rain in the drain," are displayed on both public and private storm sewer infrastructure inlets within the earmarked area, *see map right*, to remind people to help protect our community's valuable drinking water resource.

A well-managed wellhead protection plan not only benefits the City's drinking water, but also the storm water that eventually flows to the rivers downstream. Wellhead protection prevents contaminants from entering areas that contribute water to the public water supply. The areas are determined by geologic and hydrologic criteria such as the physical characteristics of the aquifer and the effects that pumping has on the rate and direction of groundwater movement. A management plan identifies potential sources of groundwater contamination, monitors for the presence of specific contaminants, and manages existing



and future land and water uses that pose a threat to groundwater quality.

The *Minnesota Groundwater Protection Act of 1989* granted the Commissioner of Health authority to develop wellhead protection measures for wells serving public water supplies; this rule does not apply to private wells. This action was in response to the 1986 amendment of the federal *Safe Drinking Water Act* in which states are required to implement wellhead protection programs for public water supply wells.

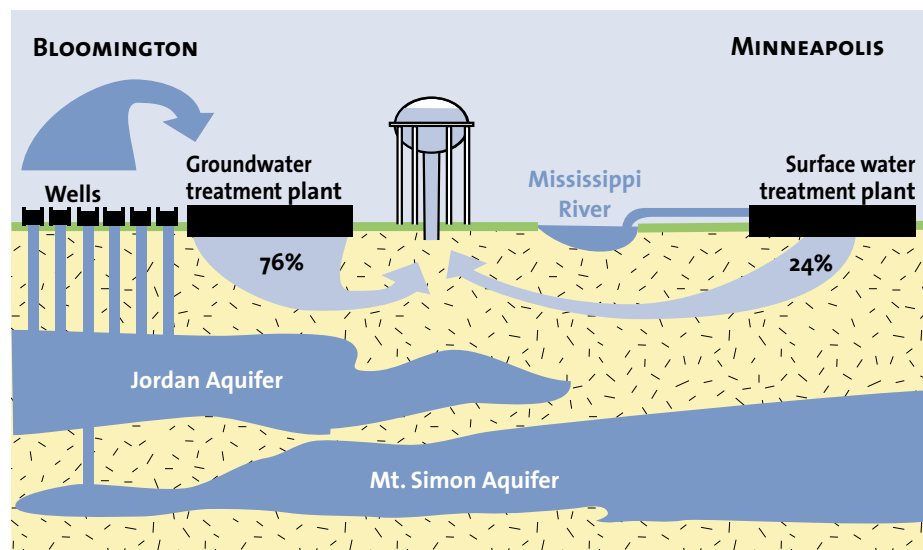
While a wellhead protection plan gives public water suppliers another useful tool for providing a safe drinking



water supply to their customers, the long-term goals are beneficial to all residents of Minnesota. These goals reduce the need for costly treatment facilities, new wells and removal of contaminants from groundwater.

If you would like more information about wellhead protection, contact Bob Cockriel at 952-563-8774 or the Minnesota Department of Health Source Water Protection Unit at 651-201-4700.

THE SOURCE OF BLOOMINGTON'S TAP WATER



BLOOMINGTON WELLS FULFILLED 76 PERCENT OF WATER NEEDS IN 2012

The City's water plant draws raw (untreated) groundwater from six deep wells. The wells extend downward between 376 and 963 feet into the Jordan, Prairie du Chien-Jordan, Franconia-Mount Simon and Jordan-St. Lawrence Aquifers, porous underground rock formations that hold vast amounts of water. The Midwest has a very rich water supply.

The City drew 3.46 billion gallons of water, 76 percent of Bloomington's needs, from these deep groundwater wells in 2012. The Bloomington City Council continues to monitor water usage and takes appropriate actions to encourage the wise use of water.

MISSISSIPPI RIVER SUPPLIED 24 PERCENT OF WATER NEEDS IN 2012

To meet demand that exceeds production capabilities during peak periods, Bloomington purchases treated water from the city of Minneapolis. Treated water from our plant is blended with similarly treated water from Minneapolis and sent throughout Bloomington's distribution system. All of Bloomington's consumers receive a blend of water from these two sources.

Minneapolis' surface water treatment plant takes its raw water from the Mississippi River. In 2012, the City purchased nearly 1.1 billion gallons of water from Minneapolis, which supplied the remaining 24 percent of Bloomington's water needs.

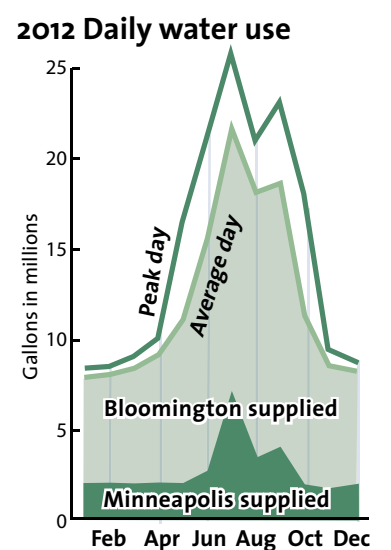
WEBSITE KEYWORDS: WATER TREATMENT.

HOW MUCH IS USED?

In 2012, residents and businesses in Bloomington used almost 4.6 billion gallons of water, 321 million more than 2011. The average was 12.6 million gallons of water per day last year.

The chart below shows the peak day and average day of water use for each month during 2012, as well as the average amount of water treated at the City's plant and purchased from Minneapolis. To get a more accurate picture of the actual water consumed, peak day data was adjusted to account for fluctuations in the City's reservoir levels.

WEBSITE KEYWORDS: WATER USAGE.



The earth has roughly 326 million cubic miles of water, and humans have consumed about three-tenths of a percent of this water. Studies have shown that the average person in the United States uses 80 - 100 gallons of water per day, with the largest amount coming from the flushing of toilets. An estimated 85 percent of this water consumption is received from public water facilities with the remaining percentage coming from private wells or other sources.

INTERESTING AND USEFUL WATER FACTS ©
ALLABOUTWATER.ORG

St. Cloud Technical College

A CAREER IN THE WATER INDUSTRY IS WAITING FOR YOU!

St. Cloud Technical College's Water Environment Technologies program provides you with the skills you need to land a great job in this rapidly growing industry.

There are many benefits to this program:

- Hands-on learning.
- Twelve-month program.
- Metro and St. Cloud locations.
- Ninety-five percent placement rates.

For more information on this career program, call St. Cloud Technical and Community College at 1-320-308-5952 or e-mail instructor Bill Spain at bspain@sctcc.edu.

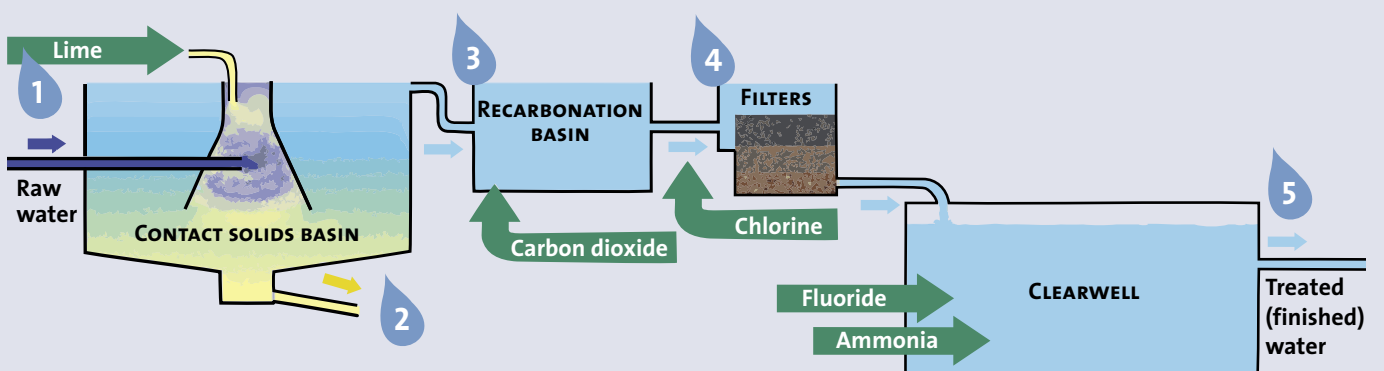
WATER TREATMENT PROCESS

- 1 The softening process begins when lime, in the form of slakened quicklime, is mixed with raw water in one of the City's two contact solids basins. Each basin holds about half a million gallons of water.
- 2 The lime-and-water mixture causes a chemical reaction that results in calcium and magnesium (the main components of hardness) forming insoluble particles called flocs. As these floc particles grow in size, they settle to the bottom of the contact solids basins. The solids are removed, dewatered and used as a USDA-approved source of lime by Minnesota farmers to stabilize the pH in farm fields.
- 3 The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide. A precise amount of chlorine is added to discourage bacterial growth as the water travels through the City's distribution system.
- 4 The water is filtered to remove any remaining particles. Then it enters an underground reservoir called a clearwell where small quantities of fluoride and ammonia are added. Because fluoride promotes strong teeth and bones, fluoridation is mandated by state law at a dosage of 0.9 - 1.5 ppm. Ammonia works with the chlorine as a disinfectant. Now softened and disinfected, the water is ready for use by residents and businesses.
- 5 The finished water from the City's treatment plant is pumped into the distribution system, where it is mixed with treated water purchased from the city of Minneapolis.

WATER TESTING

The Tri-City/William Lloyd Analytical Laboratory is certified by the Minnesota Department of Health to treat and test water. In 2012, the lab performed more than 21,000 tests on Bloomington's water supply, analyzed 78 state-mandated bacteria tests for new water main construction projects and conducted water quality analysis of 162 Bloomington water bodies.

WEBSITE KEYWORDS: TREATMENT PROCESS.





SHOULD I GET A WATER FILTRATION SYSTEM?

Because Bloomington’s water surpasses all federal and state standards, home filtration systems are not necessary. However, if you choose to purchase a filtration system for aesthetic or medical reasons, keep the following in mind:

- Find out if the filter you are considering is capable of removing substances that concern you.
- Look for filters that have been certified by NSF International (an independent testing group) and Underwriters Laboratory (UL).
- Follow the manufacturer’s maintenance instructions carefully.



WATER SOFTENING

The City’s lime-softening process removes most of the hardness in Bloomington’s water, reducing it from 19 grains per gallon to about 5.2 grains per gallon finished water. (Zero grains water is ultra soft, 19 grains is considered raw.) The water is also treated to be noncorrosive. This helps prevent unsafe levels of lead and copper from leaching into the water from home plumbing. Home softening systems can further reduce water hardness, usually by adding a small amount of sodium.

Bloomington is one of approximately 24 Minnesota municipal utilities divisions that soften water. Most municipalities choose not to soften their water.

OTHER QUESTIONS?

Feel free to contact us at any time with your questions about drinking water. Call the Water Treatment Plant at 952-563-4905.

WEBSITE KEYWORDS: WATER FAQs.

FREQUENTLY ASKED QUESTIONS ABOUT BLOOMINGTON’S WATER

WHY IS THE WATER FROM MY FAUCET CLOUDY?

Occasionally, the City receives calls regarding water that appears cloudy or milky. Usually indicating the presence of either oxygen or calcium, cloudy water is perfectly safe to drink.

Oxygen in water: Sometimes water fresh from the tap appears cloudy. Within a minute or two, the cloudiness rises toward the top of a glass and before long the whole glass is crystal clear. This is caused by excess oxygen escaping from the water.



Changes in water temperature and pressure can cause the oxygen dissolved in it to reach a supersaturated state where more oxygen is in the water than it can hold. When the water passes through a faucet, the disturbance is enough to release the excess oxygen out of the water, forming microscopic bubbles. The bubbles are so tiny that it takes them a long time to rise through the water. No harm will come from using oxygenated water and you need not take any corrective action if you experience it.

Calcium in water: The chemistry of water is surprisingly complex and many factors influence how it behaves. The City treats Bloomington’s water so that it is slightly prone to deposit a trace of calcium sediment as it travels through our distribution system. This reduces the likelihood that it might corrode water mains or leach lead or copper from customers’ plumbing and fixtures. *See right.* Usually, this calcium sediment remains at the bottom of the water mains, unnoticed by water users.

However, the calcium can be stirred up when a large volume of water is

drawn through a water main in a short time. Events that can increase water velocity include firefighting, water main breaks, hydrant maintenance and filling water or street-cleaning trucks’ tanks at a hydrant. If you happen to turn on your cold water right after such an event, you may draw some of the stirred-up water into your pipes.

When calcium causes cloudiness, it is usually noticed in cold water. Let a glassful of the cloudy water sit for about 30 minutes and the calcium, appearing as a white or grayish substance, may settle to the bottom of the glass. Though it may be visually unappealing, such water is perfectly safe to drink or use for cooking.

To clean calcium sediment from your system, we recommend that you wait an hour or two to allow the water in the main to settle. Then, open a large faucet, such as a bathtub faucet, and let the cold water run for about 20 minutes. This will draw clean water through your system and should remove any remaining calcium from your pipes.

If you have any concerns or if your water remains cloudy after taking these steps, call 952-563-4905.

FOR PEOPLE WITH COMPROMISED IMMUNE SYSTEMS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants, can be particularly at risk of infections.

These people should seek advice from their health care providers about drinking water. Environmental Protection Agency and Centers for Disease Control guidelines on



appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.

Approximately 85 percent of U.S. residents receive their water from public water facilities. The remaining 15 percent supply their own water from private wells or other sources.



LEAD IN WATER

Lead in drinking water is primarily from the components associated with service lines and home plumbing. The City is responsible for providing high-quality drinking water, but cannot control the materials used in home plumbing.

Minimizing exposure to lead

Lead pipes, solder, brass faucets and other plumbing in your home pose the greatest threat of adding dangerous levels of lead to your water. A few simple practices can minimize your exposure to lead from your home.

First, always use cold water for your cooking and drinking. If your plumbing contains lead, hot water will draw more lead out of it. Second, allow your cold water to run for 30 seconds to two minutes. This flushes out any water that may have been in your pipes long enough to pick up higher concentrations of lead. If you are concerned about lead in your water, you may have your water tested.

The presence of lead ranks among the most common health concerns people have about drinking water. Recent studies suggest that levels of lead once thought to be safe can pose risks, especially to unborn babies and children.

If present, infants and children who drink water containing lead in excess could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Fortunately, over years of regular and rigorous monitoring, Bloomington’s water has never been found to be a significant source of lead.

For more information, call the Safe Drinking Water Hotline at 1-800-426-4791 or visit www.epa.gov/safewater/lead. If you are concerned about your home’s lead levels, our laboratory can test your water for a fee. *See page WQR2.*



WATER PURITY INFORMATION PROVIDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Drinking water sources in the United States, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over or through the ground, it dissolves naturally occurring minerals and, sometimes, radioactive material. Water also picks up substances resulting from animal or human activity.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) regulates the amounts of certain contaminants in water provided by public systems. The Food and Drug Administration regulates contaminants in bottled water to provide the same public health protection.

Drinking water, including bottled water, may be expected to contain reasonably small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk. Information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline at 1-800-426-4791.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE UNTREATED WATER

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, can occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.

Pesticides and herbicides come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants can occur naturally or be the result of oil and gas production and mining activities.

2012 Water Quality Results

The Minnesota Department of Health and City staff regularly test samples of Bloomington’s water for many contaminants. Some substances were detected in trace amounts in the drinking water. Only those substances that were detected appear on the table; many results are not listed because the substances were not found at any time in 2012 by tests designed to detect them. Some substances are tested less than once per year; in such cases, the most recent results and the test dates are reported.

Some contaminants do not have Maximum Contaminant Levels (MCL) established. These “unregulated contaminants” are assessed using federal standards known as health risk limits to determine if they pose a threat. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water system must inform its customers and take corrective actions.

The table’s upper portion summarizes test results performed on Bloomington water. The lower portion

shows results for Minneapolis water because we blend Minneapolis treated surface water with the Bloomington Water Plant’s treated groundwater.

The Minnesota Department of Health has made a determination as to how vulnerable Bloomington’s source water may be to future contamination incidents. If you wish to obtain the entire source water assessment, please call 651-201-4700 or 1-888-345-0823 during normal business hours, or view the assessment online at www.health.state.mn.us/divs/eh/water/swp/swa.

Detected substance	Amount detected	Maximum (MCL)	Target (MCLG)	Typical source of substance	Type	Meets standards?
CITY OF BLOOMINGTON						
Chlorine (ppm)	Avg. = 2.09 (1.9 to 2.3)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm)	90% = 0.03 (0 of 30 sites over AL)	AL = 1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Fluoride (ppm)	Avg. = 1.05 (0.96 to 0.99)	4	4	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	R	Yes
Haloacetic Acids (HAA5) (ppb)	Avg. = 12.47 (nd to 20.3)	60	0	By-product of drinking water disinfection	R	Yes
Lead (ppb)	90% = 5 (2 of 30 sites over AL)	AL = 15	0	Corrosion of household plumbing systems; erosion of natural deposits See page WQR 3.	R	Yes
Sodium (ppm) (07/03/2008)	5.4	U	U	Erosion of natural deposits	U	NA
Sulfate (ppm) (07/03/2008)	12.6	U	U	Erosion of natural deposits	U	NA
Total Coliform Bacteria	Avg. = 1% **	>5% present	0 present	Naturally present in the environment	R	Yes
Trihalomethanes (TTHM) (ppb)	Avg. = 15.33	80 (.4 to 2.2)	0	By-product of drinking water disinfection	R	Yes
CITY OF MINNEAPOLIS						
Chlorine (ppm)	Avg. = 3.28 (2.3 to 4)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm)	90% = 0.07 (0 of 51 sites over AL)	AL = 1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Fluoride (ppm)	Avg. = 1.05 (0.4 to 1.1)	4	4	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	R	Yes
Haloacetic Acids (HAA5) (ppb)	Avg. = 51.15 (1.3 to 90.08)	60	0	By-product of drinking water disinfection	R	Yes
Lead (ppb)	90% = 3.2(1 of 50 sites over AL)	AL = 15	0	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Nitrate (as nitrogen) (ppm)	0.2	10.4	10.4	Runoff from fertilizer use; leaching from sewage; erosion of natural deposits	U	NA
Sodium (ppm)	11.1	U	U	Erosion of natural deposits	U	NA
Sulfate (ppm)	23	U	U	Erosion of natural deposits	U	NA
Total Coliform Bacteria	Avg. = 1% **	>5% present	0 present	Naturally present in the environment	R	Yes
Trihalomethanes (TTHM) (ppb)	Avg. 54.84 (8.8 to 105.9)	80	0	By-product of drinking water disinfection	R	Yes
Turbidity (NTU)	Avg. 0.6 (0.2 to 0.27)	TT	NA	Soil runoff	R	Yes
Detected substance	Unit	Removal achieved	Removal required	Typical source of substance	Quarters out of compliance	
CITY OF MINNEAPOLIS						
Total organic carbon	% Removed	46 to 59.1%	25 to 30%	Naturally present in the environment	0	
KEY						
MCL Maximum Contaminant Level. The highest level allowed in drinking water. MCLs are set as close to MCLG as feasible using the best available treatment technology.		NA	Not Applicable.		NTU	Nephelometric Turbidity Unit. A measure of water clarity.
MCLG Maximum Contaminant Level Goal. Below this level there is no known or expected health risk. MCLGs allow for a margin of safety.		AL	Action Level. An amount that, if exceeded, triggers a specific response that a water system must follow.		MRDL	Maximum Residual Disinfectant Level.
U Unregulated, but monitoring is required by the State of Minnesota. No limits have been set for this compound.		TT	Treatment Technique. A required process intended to reduce the level of a contaminant.		MRDLG	Maximum Residual Disinfectant Level Goal.
R Regulated.		ppb	Parts Per Billion. Units of a substance, in pure form, found in every billion units of water.		90%	Value obtained after disregarding the 10 percent of the samples taken that had the highest levels.
		ppm	Parts Per Million. Units of a substance, in pure form, found in every million units of water.		cfu	Colony Forming Unit.
					nd	No Detection.

** Follow-up sampling showed no contamination present.